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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Tomoyuki HATTORI, et al.

SERIAL NO: 10/053,704

GAU: 2834

FILED: January 24, 2002

EXAMINER: Hanh N. NGUYEN

FOR: PERMANENT MAGNET TYPE ELECTRIC MOTOR

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## INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

SIR:

Applicant(s) wish to disclose the following information.

## REFERENCES

The applicant(s) wish to make of record the references cited in the attached European Search Report listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.

A check is attached in the amount required under 37 CFR §1.17(p).

## RELATED CASES

Attached is a list of applicant's pending application(s) or issued patent(s) which may be related to the present application. A copy of the patent(s), together with a copy of the claims and drawings of the pending application(s) is attached along with PTO 1449.

A check is attached in the amount required under 37 CFR §1.17(p).

## CERTIFICATION

Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.

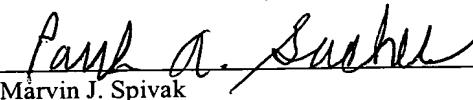
No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

## DEPOSIT ACCOUNT

Please charge any additional fees for the papers being filed herewith and for which no check is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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Form PTO 1449  
(Modified)DEPARTMENT OF COMMERCE  
PATENT TRADEMARK OFFICEATTY DOCKET NO.  
218296US2SCONTSERIAL NO.  
10/053,704

## LIST OF REFERENCES CITED BY APPLICANT

APPLICANT  
Tomoyuki HATTORI, et al.FILING DATE  
January 24, 2002GROUP  
2834

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
AA						
AB						
AC						
AD						
AE						
AF						
AG						
AH						
AI						
AJ						
AK						
AL						
AM						
AN						

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## FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION
				YES      NO
AO	2000-125493	04/28/2000	JAPAN (with English Abstract)	
AP	0 598 137	05/25/94	EUROPE	
AQ	0 991 166	04/05/2000	EUROPE	
AR	WO 99/17420	04/08/99	WIPO	
AS				
AT				
AU				
AV				

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

AW	
AX	
AY	
AZ	<input type="checkbox"/> Additional References sheet(s) attached

Examiner

Date Considered

\*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



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Europäisches  
Patentamt

Zweigstelle  
in Den Haag  
Recherchen-  
abteilung

European  
Patent Office

Branch at  
The Hague  
Search  
division

Office européen  
des brevets

Département à  
La Haye  
Division de la  
recherche

R.W.

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81925 München  
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EINGEGANGEN

07. Jan. 2003

HOFFMANN - EITLE, MÜNCHEN  
PATENTANWÄLTE RECHTSANWÄLTE

Datum/Date  
07.01.03

Zeichen/Ref./Réf.

91 723 a/fi

Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°.

01932230.4-2207-JP0104326

Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire  
Kabushiki Kaisha Toshiba

## COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

The following specifications given by the applicant have been approved by the Search Division:

abstract

title

The abstract was modified by the Search Division and the definitive text is attached to this communication.

The following figure will be published together with the abstract:

2

## REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 07, 29 September 2000 (2000-09-29) -& JP 2000 125493 A (KINOSHITA YUKIO), 28 April 2000 (2000-04-28) * abstract; figures 2,4,5 *	1,2,8,9	H02K19/10 H02K1/27 H02K21/14
X	EP 0 598 137 A (FANUC LTD) 25 May 1994 (1994-05-25) * column 6, line 2 - line 41; figures 2,3 *	1,2,9	
X	EP 0 991 166 A (TOKYO SHIBAURA ELECTRIC CO) 5 April 2000 (2000-04-05) * column 22, line 39 - column 23, line 7; figures 3-6 *	1-3,8	
X	WO 99 17420 A (BRASIL COMPRESSORES SA ;LIMA CLAUDIO WERNER DE (BR); MOEBIUS MARCO) 8 April 1999 (1999-04-08) * page 5, line 15 - page 7, line 18; figures 1,2,7 *	1,2	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			H02K
LACK OF UNITY OF INVENTION			
<p>The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:</p> <p>see sheet B</p>			
<p>The present partial European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims.</p>			
2	Place of search  MUNICH	Date of completion of the search  11 December 2002	Examiner  von Rauch, E
CATEGORY OF CITED DOCUMENTS		<p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>	
<p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p>			



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1, 2, 3, 8, 9

flux barrier openings in a reluctance rotor

2. Claims: 4-7

relative wall thickness between a permanent magnet and a  
opening

3. Claims: 10, 11

stator tooth design



Claim(s) searched incompletely:

1,2

Reason for the limitation of the search:

Present claims 1 and 2 relate to an apparatus defined (inter alia)

by reference to the following parameter:

P1:  $P*L / 2*\pi*R*Wq,ave$

The use of these parameters in the present context is considered to lead to a lack of clarity within the meaning of Article 84 EPC. It is impossible to compare the parameters the applicant has chosen to employ with what is set out in the prior art. The lack of clarity is such as to render a meaningful complete search impossible. Consequently, the search has been restricted to:

A rotor with permanent magnets and iron parts for reluctance including openings.

'The parts relating to the embodiments mentioned in the description at page 5 line 3-19.!

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 93 2230

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

11-12-2002

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
JP 2000125493	A	28-04-2000	KR	2000029130 A		25-05-2000
EP 0598137	A	25-05-1994	JP	5344668 A		24-12-1993
			DE	69306743 D1		30-01-1997
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